1. A combination comprising:

a flat plate panel converter having a top upon which sunlight is impinged, the converter deriving electricity from sunlight;

a cooling mechanism disposed beneath the flat plate panel converter to which heat created at the converter is dissipated.

2. A combination according to Claim 1 wherein the cooling mechanism comprises a fluid-flow passageway to which the heat from the converter is transferred.

3. A combination according to Claim 2 wherein the passageway is defined by at least one thermally conductive metal tube.

4. A combination according to Claim 1 wherein the configuration of the metal tube is serpentine.

5. A combination according to Claim 3 further comprising a thermally conductive metal sheet disposed above the metal tube.

6. A combination according to Claim 1 further comprising a layer of material interposed between the cooling mechanism and the converter, the layer comprising material which is both dielectric and thermally conducting.

7. A combination according to Claim 1 further comprising thermal insulation surrounding at least part of the cooling mechanism.

8. A combination according to Claim 1 further comprising a support layer for the converter superimposed over the cooling mechanism.

9. A combination comprising:

at least one flat plate panel solar element comprising a surface upon which sunlight is impinged, the solar element converting sunlight to electricity;

a sunlight concentrator comprising at least one deflection adapted to extend angularly skyward away from a peripheral location adjacent to the surface of the solar element and from which rays of sunlight offset from but adjacent to the surface of solar element are deflected therefrom against the surface of the solar element whereby a greater quantity of electricity is obtained.

10. A combination according to Claim 9 wherein the sunlight concentrator comprises at least two opposed upwardly diverging angular mirrors disposed peripherally to the surface of the solar element to concentrate more sunlight on the surface.

11. A combination according to Claim 9 wherein the surface of the at least one solar element is generally flat, the combination further comprising a heat transfer system disposed beneath the solar element comprising a passageway through which fluid is passed to transfer heat from the solar element to the fluid.

12. A combination according to Claim 9 wherein the passageway is defined at least in part by a thermally conductive serpentine metal tube.

13. A combination according to Claim 12 further comprising a thermally conductive sheet interposed between the solar element and the metal tube.

14. A combination according to Claim 11 further comprising material interposed between the solar element and the heat transfer system the material being thermally conductive but electrically non-conductive.

15. A combination according to Claim 9 further comprising a support backing upon which the solar element is superimposed.

16. A combination according to Claim 9 further comprising a multiple axes tracking system by which the solar element is placed and retained essentially perpendicular to the sun.

17. A combination according to Claim 9 further comprising a mechanism by which the combination is generally inverted during times of low and no sunlight to protect the surface and deflector for environmental contaminate.

18. A combination comprising:

a flat plate panel sunlight-to-electricity converter;

a cooling system disposed next to the flat plate panel away from the sun;

a multiple axes tracking system by which an exposed surface of the flat panel is normally maintained essentially perpendicular to the sun during daylight hours.

19. A combination according to Claim 18 further comprising at least one angularly-disposed side board reflector whereby adjacent sunlight not aligned with the exposed surface of the flat panel is deflected onto the exposed surface.

20. A combination according to Claim 18 wherein the combination presents a low vertical profile.

21. A method of deriving electricity from sunlight comprising the acts of:

impinging sunlight upon a surface of a flat plate panel;

converting the impinged sunlight to electricity while generating heat at the flat plate panel;

transferring heat from the flat plate panel to elevate the temperature of a fluid circulated adjacent to an underside of the flat plate panel.

22. A method according to Claim 21 comprising the further act of utilizing the elevated temperature of the fluid to do work.

23. A method according to Claim 21 comprising the further act of passing the heat from the flat plate panel to the fluid across a dielectric heat transferring medium.

24. A method according to Claim 21 wherein the impinging act comprises impinging sunlight both directly and through angular side panel deflection upon the surface of the flat plate panel.

25. A method of deriving electricity from sunlight comprising the acts of:

impinging sunlight upon a surface of a flat plate panel and deriving electricity and heat therefrom;

transferring heat from the flat plate panel to a fluid circulated adjacent to the flat plate panel;

multiple axes tracking the flat plate panel to follow the sun so that the surface is kept essentially perpendicular to rays of the sun.

26. A method according to Claim 25 wherein the impinging act comprises impinging rays of the sun aligned with the flat plate panel directly on the surface and deflecting rays adjacent to but not aligned with the surface onto the surface to thereby concentrate a greater amount of sunlight on the surface.

27. A method according to Claim 26 further comprising the act of rotating the flat plate panel to face generally downward in times when there is little or no sunlight.

28. A method according to Claim 25 further comprising the act of maintaining a low vertical profile of the flat plate panel and associated components.

29. A solar generator comprising:

a solar energy to electrical energy converter comprised of at least one surface upon which sunlight is impinged;

a cooling system associated with the converter but remote from the surface;

a bifunctional material interposed between the converter and the cooling system prohibiting transfer of electricity thereacross but accommodating transfer of thermal energy thereacross.

30. A solar generator according to Claim 29 further comprising a light transmitting envelope encapsulating the solar generator in a hermetically sealed, evacuated environment.

31. A solar generator according to Claim 29 further comprising at least one peripheral light deflector angular to but out of alignment with the one surface by which additional peripheral sunlight is concentrated on the one surface.